CA-640

Installation Instructions

PROFESSIONAL INSTALLATION
STRONGLY RECOMMENDED

Installation Precautions:

Roll down window to avoid locking keys in vehicle during installation

Avoid mounting components or routing wires near hot surfaces

Avoid mounting components or routing wires near moving parts

Tape or loom wires under hood for protection and appearance

Use grommets when routing wires through metal surfaces

Use a voltmeter for testing and verifying circuits

Technical Support

For Authorized Dealers - (800) 421-3209

FCC COMPLIANCE

This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including any interference that may cause undesired operation.

Warning!

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

System Layout

FOR MODULE FUSE SIZE AND POLARITY LOCATIONS, REFER TO CHART ON PAGE 20.

IMPORTANT!!!

The module MUST be programmed before it will operate. Refer to the programming instructions on pages 16-21.

System Layout Code Alarm CA-640™

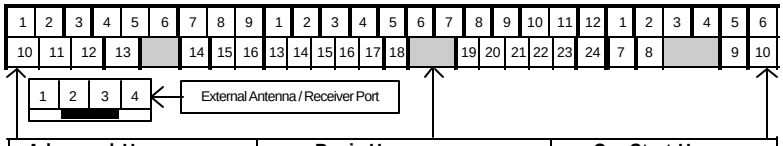
A = Advanced Harness

B = Basic Harness

C = Car Start Harness

Note: The wire connection sections will identify each wire with a number (pin cavity) and a letter (harness), i.e.: 20/B = Wire 20, B (Basic) Harness.

View from wire end:



Advanced Harness

1. Lock Switch (87a) (BLU/BLK)
2. Factory Arm/RAP (-) (BLK/GRN)
3. Unlock Switch (87a) (GRN/BLK)
4. Factory Disarm (-) (LT.GRN/BLK)
5. Unused
6. Unused
7. Unused
8. Trunk Pin Input (-) (BLUE)
9. Trunk Switch (87a) (TAN/RED)
10. AUX 1 (-) 500ma (RED/WHT)
11. AUX 2 (-) 500ma (BLU/WHT)
12. AUX 3 (-) 500ma (GRN/WHT)
13. AUX 4 (-) 500ma (YL/GRN)
14. Armed Output (-) (ORANGE)
15. Ext. Sensor Input (-) (BLK)
16. Unused

Basic Harness

1. Parking Light Output (WHITE)
2. Lock Motor Output (BLUE)
3. Dome Light Output (BLK/WHT)
4. Battery (+12v) (RED)
5. Ground (BLACK)
6. Starter Key (+) (VIOLET/RED)
7. Ignition 1 Input/Output (+) (PINK)
8. Starter Motor (+) (VIOLET)
9. Unused
10. Door Trig. 10k pull-up (YEL/WHT)
11. Ext. Start Trig./Ext. Lt. Touch (WHT/BLU)
12. Unused
13. Trunk Motor Output (TAN)
14. Unlock Motor Output (GREEN)
15. Siren Feed (RED)
16. Siren Drive (-) 1 Amp (BLACK)
17. Disarm/Override Button (Ground) (**PLUGIN**)
18. Disarm/Override Button Input (**PLUGIN**)
19. Hood Pin Input (GRAY)
20. Door Trigger Input (GRN/VT)
21. Horn Relay Drive (-) 500ma (BRN/BLK)
22. LED 2 (Red) (**PLUGIN**)
23. LED 1 (Black) (**PLUGIN**)
24. Second Door Unlock (-) 500ma (BLU/GRN)

Car Start Harness

1. HVAC2 Input (BLUE)
2. Battery (+12 v) (RED)
3. Ignition 2 Output (-) (PK/WHT)
4. HVAC1 Output (-) (ORG)
5. HVAC2 Output (+) (ORG/WHT)
6. Unused
7. Brake Input (+) (BROWN)
8. Neutral Safety (BLK/WHT)
9. Tach In (VIOLET/WHT)
10. Active Out (-) (BLU/BLK)

1. Basic Harness (B)

IMPORTANT!!!

• Remove fuses from Module before installation.
• Solder and tape all connections.

1/B Parking Light Output (16 AWG) (WHITE)

Locate the vehicle parking light wire.

Verification: This wire will register either positive voltage or ground when the parking lights are turned on. Voltage does not vary when dimmer switch is adjusted. Refer to the **Vehicle Wire Color and Location Chart** for the wire color, polarity, and location.

- Connect the 1/B wire to the parking light wire.

IMPORTANT!

After installation, set the polarity of this circuit by moving the fuse inside of the control module to positive (+) or negative (-).

2/B Lock Motor Wire (16 AWG) (BLUE)
1/A Lock Switch Wire 87A (16 AWG) (BLUE/BLACK)

14/B Unlock Motor Wire (16 AWG) (GREEN)
3/A Unlock Switch Wire 87A (16AWG) (GREEN/BLACK)

24/B Second Door Unlock (16 AWG -) (BLUE/GREEN)

IMPORTANT!

After installation, set the polarity of this circuit by moving the fuse inside of the control module to positive (+) or negative (-).

Type 1: Positive 3-wire door lock system - Polarity Fuse = Positive (+)

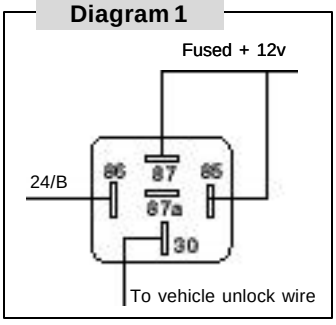
Single-stage unlock

- Connect the 2/B wire to the vehicle lock wire.
- Connect the 14/B wire to the vehicle unlock wire.

Two-stage unlock

- Connect the 2/B wire to the vehicle lock wire.
- Use a SPDT relay (not supplied) and connect the 24/B wire to the vehicle unlock wire as shown in Diagram 1.

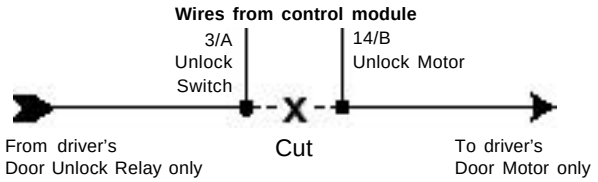
Diagram 1



1. Basic Harness (B), cont'd

- Refer to Diagram 2 to connect to the vehicle's drivers unlock wire.

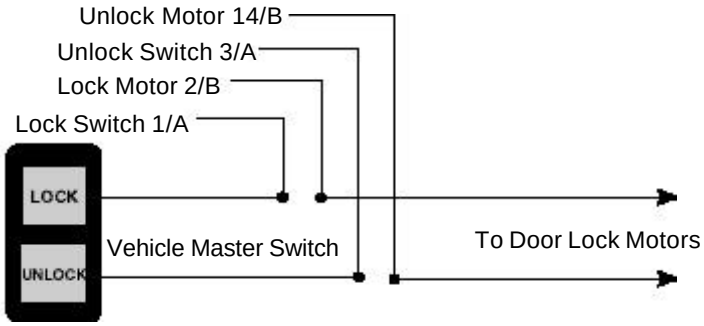
Diagram 2



Type 2: Positive 5-Wire Door Lock System
Polarity fuse = Positive (+)

Single-Stage Unlock

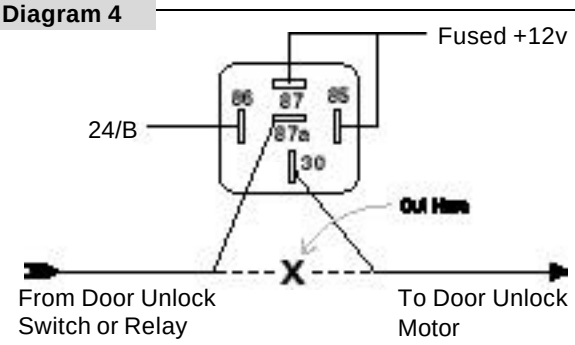
Diagram 3



Two-Stage Unlock

- Connect wires 2/B, 1/A as shown in Diagram 3 (above).
- Use a SPDT relay (Not Supplied) and connect the 24/B wire to the vehicle's unlock wire as shown in Diagram 4 (below).
- Connect wires 14/B, 3/A as shown in Diagram 2 (above).

Diagram 4



1. Basic Harness (B), *cont'd*

Type 3: Negative 3-Wire Door Locking System
Polarity Fuse = Negative

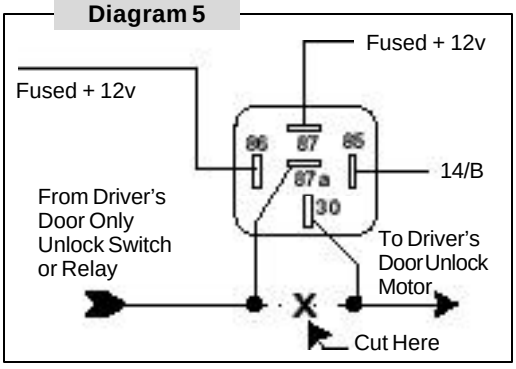
Single-stage unlock

- Connect the 2/B wire to the vehicle lock wire.
- Connect the 14/B wire to the vehicle unlock wire.

Two-stage unlock

- Connect the 2/B wire to the vehicle lock wire.
- Connect the 24/B wire to the vehicle unlock wire.
- Use a SPDT relay (not supplied) and refer to Diagram 5 to connect to the vehicle's driver's unlock wire.

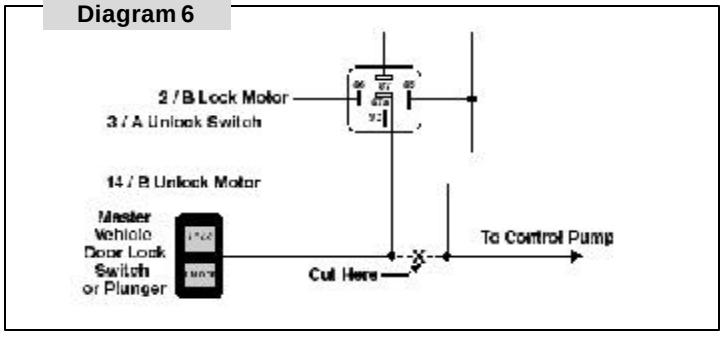
Diagram 5



Type 4: Vacuum Door Lock System
Polarity Fuse = Positive

Note: Two-stage unlock will not work with this type of system.

Diagram 6



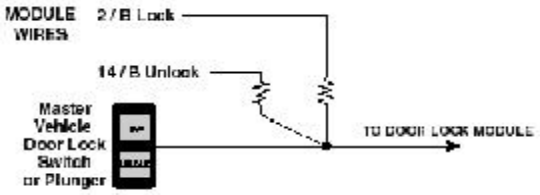
1. Basic Harness (B), *cont'd*

Type 5: Resistor Door Lock system
Polarity Fuse = Positive/Negative

Note: Refer to **Vehicle Wire Color and Location Chart** for correct polarity. Move the fuse inside of the control module to positive or negative polarity.

Single Stage Unlock

Diagram 7



Two-Stage Unlock

- Connect the 2/B wire as shown in Diagram 7 (above).
- Connect the 24/B wire as shown in Diagram 8 (below).
- Connect the 14/B wire as shown in Diagram 9 (below).

Diagram 8

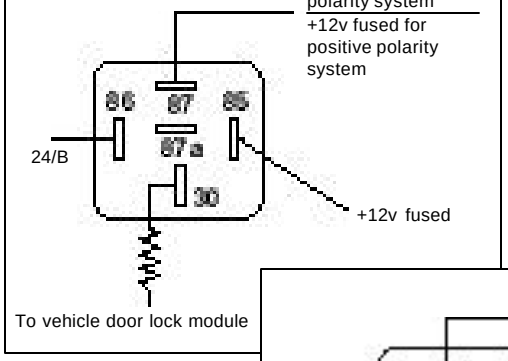
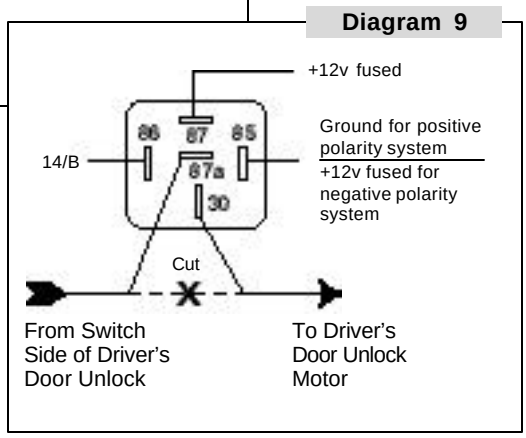


Diagram 9



1. Basic Harness (B), *cont'd*

3/B Courtesy Light Output (16 AWG) (BLACK/WHITE)

Locate the vehicle courtesy light wire.
Verification: This wire is usually the door pin switch wire. Refer to testing procedure in 20/B to determine the correct polarity of the courtesy light system.

▶ Connect wire to the courtesy light wire.

IMPORTANT!

After installation, set the polarity of this circuit by moving the fuse inside of the control module to positive (+) or negative(-).

4/B Main Power (14 AWG) (RED)

▶ Connect the 4/B wire to the vehicle main power wire at the ignition switch.
Verification: This wire registers voltage through every position of the ignition switch.

5/B Chassis Ground (14 AWG) (BLACK)

▶ Connect the 5/B wire to a **solid chassis ground point.** Scrape away paint from the grounding point to ensure a good connection.
Note: Do not ground the 5B wire with any other vehicle components.

6/B Starter Input Key Side (14 AWG) (VIOLET/RED)
8/B Starter Output Motor Side (14 AWG) (VIOLET)

Locate the vehicle starter wire.
Verification: This wire registers voltage *only* when the key is turned to the START position.
Cut the vehicle starter wire in half.
Verification after starter wire is cut:
- KEY SIDE of starter wire registers voltage when the key is turned to the START position.
- MOTOR SIDE of starter wire registers no voltage.

▶ Connect the 6/B wire to the KEY SIDE of the vehicle starter wire at the ignition switch harness.

▶ Connect the 8/B wire to the MOTOR SIDE of the vehicle starter wire.

7/B Ignition 1 Input/Output (14 AWG+) (PINK)

▶ Connect 7/B wire to the vehicle ignition wire at the ignition switch.
Verification: This wire registers voltage when the key is turned to the ON (or RUN) position. The voltage does not drop out when the key is turned to the START (or CRANK) position.

10/B Door Trigger 10K Pull-up Resistor (20 AWG) (YEL/WHT)

For vehicles with a door input battery saver mode (i.e., Ford Windstar, Lincoln LS, Cadillac DeVille):

▶ Connect the 16/A wire to a fused constant 12 volt source.

Note: An internal 10k resistor will prevent the door input from going into battery saver mode to prevent alarm falsing.

1. Basic Harness (B), *cont'd.*

11/B External Start Trigger/ Lite Touch Input (20 AWG +/-)

This wire will activate the Car Start System or provide an external warn away input when a positive/negative pulse is applied to it from an external device. Refer to option programming

IMPORTANT!

After installation, the polarity for this circuit must be set in Option Bank 9, Feature 2 (page 20).

13/B Trunk Release Output (16 AWG) (TAN)

Locate the vehicle trunk release wire.

Verification: Refer to the **Vehicle Wire Color and Location Chart** for the wire color, polarity, and location.

- Connect the 13/B wire to the vehicle trunk release wire.

Note: If the trunk release system is 5-wire type, refer to wire 9/A (Advanced Harness).

IMPORTANT!

After installation, set the polarity of this circuit by moving the fuse inside of the control module to positive (+) or negative(-).

15/B, 16/B Siren Installation (20 AWG)

If you are installing a siren:

Mount siren with bell housing facing down.

Use at least two (2) screws to secure siren to mounting location.

- Connect siren; BLACK wire to 16/B BLACK Siren Drive.
- Connect siren; RED wire to a 15/B RED Ssiren Feed.

Note: For Multi-Tone sound reverse leads

17/B, 18/B Emergency Override Button (20 AWG-)

Find a mounting location for the override button that is not easily seen or openly accessible. There must be at least 1" clearance behind the location.

Drill a $^{9}/_{32}$" hole and mount the button.

19/B Hood Safety/Glow Plug Input (20 AWG -) (GRAY)

- Install the supplied pin switch and attach the 19/B wire.

Verification: When connected, the 19/B wire will register ground when the vehicle hood is opened.

This wire can be used as a (NEG) glow plug input , diode isolate if used for both circuits

1. Basic Harness (B), *cont'd.*

20/B Positive/Negative Door Input (20 AWG) (GREEN/VIOLET)

- Connect the 20/B wire to the vehicle pin switch or courtesy light circuit. *Verification* - Refer to **Vehicle Wire Color and Location Chart** for circuit type and location, or verify the vehicle wire using the following guideline:

  - *Positive Systems* - Target wire registers voltage when any door is opened.
  - *Negative Systems* - Target wire registers ground when any door is opened.

Important!

After installation, select the polarity of this circuit in programming Option Bank 9, Feature 1 (factory default = negative), page 20

NOTE:

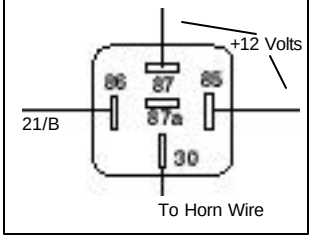
FOR POSITIVE SYSTEMS, TEMPORARILY CONNECT THE 20/B WIRE TO GROUND IN ORDER TO ACCESS THE PROGRAMMING MODE. CHANGE OPTION BANK 9/FEATURE 1 TO POSITIVE POLARITY (PAGE 20).

21/B Horn Relay Drive 500mA (20 AWG -) (BROWN/BLACK)

Locate the vehicle horn wire.
Verification: This wire will register either positive or ground when the horn is pressed.

- Connect the 21/B wire to the vehicle horn wire if the system is negative.
- If the system is positive, use a SPDT Relay (not supplied) and connect the 21/B wire to the vehicle horn wire as shown (Diagram 10).

Diagram 10



22/B LED2 (20 AWG+)
23/B LED1 (20 AWG-)

Locate a visible section of the dash with 1" clearance behind the location.

Drill a $^{9}/_{32}$" hole and snap the Status Indicator into place.

- Connect the Status Indicator Red Wire to the 22/B LED2 wire.
- Connect the Status Indicator Black Wire to the 23/B LED1 wire.

2. Advanced Harness (A)

2/A Factory Alarm Arm (20 AWG-) (BLACK/GREEN)

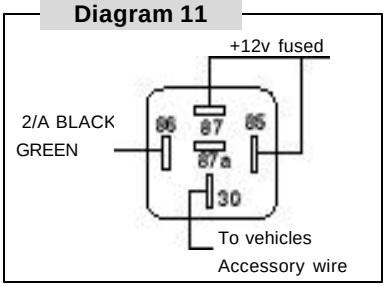
- Connect the 2/A wire to the vehicle anti-theft arm wire (if equipped).

Verification: This wire will register ground when the driver's door is locked with the key. Refer to **Vehicle Wire Color and Location Chart** for specific color and polarity information.

2/A Retained Accessory Output (20 AWG-) (BLACK/GREEN)

This wireon also has the ability to go active after the ignition has been turned off for 1 minute or until the door has open. This is a selectable option please refer to option programming on page ??. Option Bank 6, Feature 4

Diagram 11



- Use a SPDT relay (not supplied) and connect the 2/A wire as shown (Diagram 11) this will keep the accessories active (i.e.Radio, Windows ,Etc)

4/A Factory Alarm Disarm (20 AWG-) (LT.GREEN/BLACK)

- Connect the 4/A wire to the vehicle anti-theft disarm wire (if equipped).

Verification: This wire will register ground when the driver's door is unlocked with the key. Refer to **Vehicle Wire Color and Location Chart** for specific wire color and polarity information.

8/A Trunk Pin Input (20 AWG-) (BLUE)

- Connect the 8/A wire to the vehicle's wire that registers ground when the trunk is opened. Pin Swicth may be required

9/A Trunk Switch 87A (20 AWG) (TAN/RED)

This wire is the normally closed pin (87A) for the internal trunk release relay. If the vehicle has a 5-wire type trunk release it will be necessary to cut that wire and connect 9/A to the switch side of that wire.

Note: See 13/B description (Basic Harness).

10/A Headlight / Aux 1 500ma (20 AWG -) (RED/WHITE)

Locate the vehicle headlight wire.

Verification: This wire will register either positive voltage or ground when the headlights are turned on.

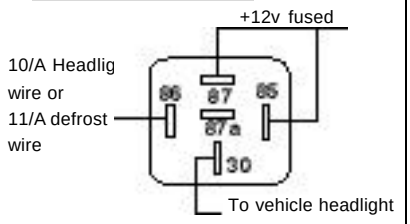
- Connect the 10/A wire to the vehicle headlight wire if the system is negative. (LOW CURRENT ONLY)
- If the system is positive, use a SPDT relay (not supplied) and connect the 10/A wire as shown (Diagram 11).

2. Advanced Harness (A), *cont'd*

10/A Cont. Headlight / Aux 1 500ma (20 AWG -) (RED/WHITE)

If wire in the vehicle tests positive, use a SPDT relay (not Supplied) and connect as diagram 11.5 as shown

Diagram 11.5



11/A Rear Defrost Output/Aux 2 500ma (20 AWG -) (BLU/WHITE)

Locate the vehicle rear window defrost wire.
Verification: This wire will register either positive voltage or ground when the rear defroster is turned on.

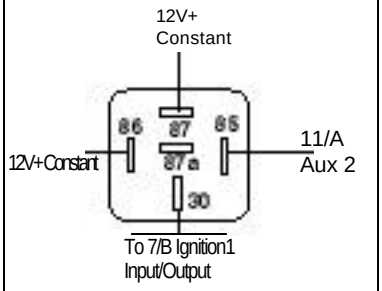
- Connect the 11/A wire to the vehicle defrost wire if the system is negative.
- If the system is positive, use a SPDT relay (not supplied) and connect the 11/A wire as shown (Diagram 11.5).

NOTE: If using Turbo Timer feature, the 11/A Aux 2 wire is used to control a relay to power the Ignition 1 wire when the Turbo Timer is activated. See below for relay diagram.

11/A Turbo Timer Ignition 1 Output 500ma (20 AWG)(BLU/WHITE)

This wire is used to energize a relay as shown in diagram 11.6 (below) that powers the Ignition 1 wire in the vehicle during Turbo Timer activation.

Diagram 11.6



12/A Aux - 3 500ma (20 AWG -) (GRN/WHT)

This wire provides a 500ma negative output capable of driving relays. For control of optional accessories (i.e.: power window/ sunroof, etc.)

13/A Aux - 4 500ma (20 AWG -) (YELLOW/GREEN)

This wire provides a 500ma negative output capable of driving relays for control of optional accessories (i.e.: power window/ sunroof, etc.)

3. Car Start Harness (C)

14/A Armed Output (20 AWG -)(ORANGE) 500mA

This wire will show a ground when the security system is armed.

15/A External Sensor Input (20 AWG -) (BLACK)

This wire is a ground input for an external sensor. Connect this wire to the negative output of the external sensor.

2/C Battery (#14 AWG) (RED)

- Connect 2/C to a main power wire at the ignition switch, preferably to a wire other than the 4/B main power connection.

3/C Ignition 2 Output (14 AWG-) (PINK/WHITE)
30 Amp Fused Relay Battery Feed (12 AWG) (RED)

Note: The 3/C wire is the ground trigger to an external Ignition 2 output relay.

- Connect the external relay PINK/WHITE output wire to the Ignition 2 wire in the vehicle.
- Connect the external relay 30 amp fused RED wire to a constant +12 volt battery source, usually found at the vehicle ignition switch

4/C HVAC1 Output (14 AWG -) (ORANGE)
30 Amp Fused Relay Battery Feed (12 AWG) (RED)

Note: The 4/C wire is the ground trigger to an external HVAC 1 output relay.

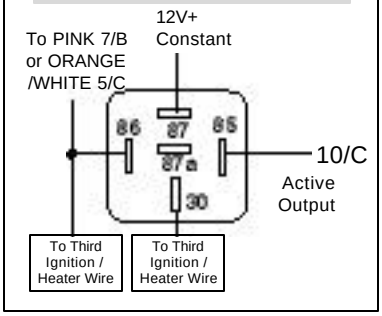
- Connect the external relay PINK/WHITE output wire to the Ignition 2 wire in the vehicle.
- Connect the external relay 30 amp fused RED wire to a constant +12 volt battery source, usually found at the vehicle ignition switch

5/C HVAC 2 Output (14 AWG+) (ORANGE/WHITE)
1/C HVAC 2 Polarity Input (14 AWG) (BLUE)

Note: Use these wires if the vehicle requires connection to a second heater/AC circuit for the vehicle to operate properly during remote start.

- Connect the 5/C HVAC 2 output wire to the second heater/AC wire at the ignition switch.
- Connect the 1/C wire to a main power wire at the ignition switch, preferably to a wire other than the 4/B main power connection.

Third Ignition or Third HVAC Connection



3. Car Start Harness (C), *cont'd*

7/C Brake Input / Glow Plug Input (20 AWG+) (BROWN)

- Connect the 7/C wire to the vehicle brake light wire.
  Verification: This wire registers positive voltage when the brake pedal is pressed.

This wire can be used as a (POS) Glow plug input., diodeisolate if used for both circuits

8/C Neutral Safety Switch (20 AWG) (BLACK/WHITE)

NOTE: The following connections are required to ensure proper operation of the system.

Negative systems:

- Connect the 8/C wire to the vehicle wire at the shifter that will show ground when in park or neutral, and voltage in all other positions.

Positive systems:

- Connect the 8/C wire to the vehicle wire at the shifter that will show 12 volts when in park or neutral, and no voltage in all other positions.

Note: This wire must be hooked up correctly for Turbo Timer option to work. Refer to Programming Option Bank 9/ Feature 3 to select polarity

9/C Tach Input (-) (VIOLET/WHITE)

- Connect the 9/C wire to wire at negative side of the vehicle ignition coil or fuel injector.
  Verification: Refer to **Vehicle Wire Color and Location Chart** for the wire color and location, or test using the following procedure:
  1. Set voltmeter to AC VOLTS.
  2. Attach positive lead of meter to a constant 12-volt source.
  3. Attach negative lead of meter to the wire to be tested.
  4. Start the engine.
  5. Have someone press on the gas pedal slightly as you monitor the meter. If connected to the correct wire, the voltage reading will increase as the engine's RPM increases.

IMPORTANT!

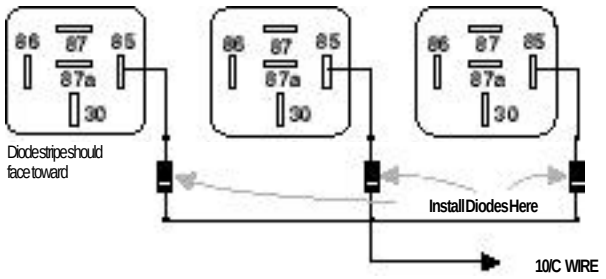
If this wire is not connected, over-rev shut-off is disabled.

3. Car Start Harness (C), *cont'd*

10/C Active Output (20 AWG -) (BLUE/BLACK)

- Connect the 10/C wire to add-on relays as described in Diagram 14, or to an optional component requiring a ground signal when the vehicle is running via remote start.

Diagram 14

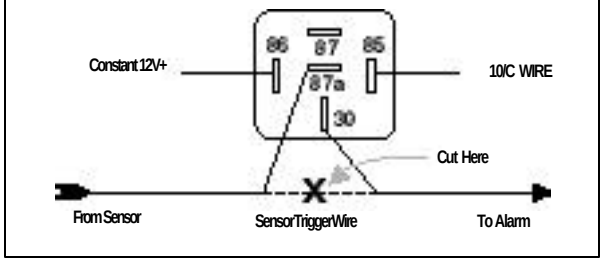


Note: If you are connecting the 10/C wire to more than one relay, install 1-amp blocking diodes (1N4001 or equivalent) as shown in the Diagram 14.

Interrupting a Sensor or Component while the Vehicle is running via Remote Start

- Use an SPDT relay (not supplied) and connect as shown in Diagram 15.

Diagram 15



4. System Power-Up and Programming

A. System Power-Up

1. All connections must be secure and well insulated.
2. Insert fuses inside of the control module in their respective slots.
3. Plug in DNA/fuse cover on top of the control module.
4. Turn vehicle ignition on.
5. Plug in 24-pin Basic Harness followed by the 16-pin Advanced Harness and 10-pin Car Start Harness.
6. Plug in 4-pin external antenna receiver into the 4-pin port below the 16-pin Advanced Harness.
7. Turn vehicle ignition off.

B. Remote Transmitter Programming

Note: Each system module has eight "slots", or memory locations, to store transmitter codes, giving it the ability to operate from up to eight transmitters. For proper operation, a transmitter code must be stored into each memory slot. When using less than eight transmitters, follow the suggested programming parameters:

- **One Remote Transmitter -** Program eight (8) times
- **Two Remote Transmitters -** Program each transmitter four (4) times
- **Three Remote Transmitters -** Program two transmitters three (3) times, and the remaining transmitter twice.

1. Open the driver's door.
   1.a. The 20/B wire must initially see a ground to access programming.
2. Turn vehicle ignition on.
3. Press and hold emergency override button.
   After 10 seconds, the siren or horn will sound three (3) times. This indicates that the unit has entered the transmitter programming mode.
4. Release the button.
5. Press the LOCK button on the remote transmitter to be programmed.
   The siren or horn will sound once, indicating that the system has "learned" that remote transmitter.
6. Repeat step 5 for any additional transmitters or transmitter codes.
7. **To continue to the Options Programming mode**, go to step 2 of **Programming Selectable Options** (next page). Otherwise, turn the vehicle ignition off to exit the programming mode. Test all remote transmitters to ensure that they work properly by toggling the LOCK and UNLOCK buttons. Do not press the START button until programming the tach signal (page 18).

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4. System Power-Up and Programming, *cont'd*

C. Programming Selectable Options

LOCK
Press to Turn Selected Feature On /Off
FIND/PANIC
Press to Advance to Next Setting
UNLOCK
Press to Restore All Settings to Factory Defaults

Note: Transmitters must be programmed prior to these steps.

1. Repeat steps 1-4 of **Remote Transmitter Programming** (previous page).
2. Press and release the emergency override button. The horn or siren will sound four (4) times. This indicates that the unit has entered the **Alarm Options (Option Bank 1)**.
3. Press the FIND/PANIC button to advance to the next feature. The siren or horn will sound a number of times to indicate the number of the option.
4. Press the LOCK button to turn the option on or off. The vehicle status indicator on the dashboard indicates whether an option is on or off.
   - **If the selected option is ON, the indicator will light.**
   - **If the selected option is OFF, the indicator will turn off.**
   - **The status indicator will turn on or off when an option is changed.**
5. When changes are complete, press and release the emergency override button to continue to the next option bank. (Siren or horn will sound five (5) times.)
6. To reset all options back to factory defaults, press the UNLOCK button.

   Note: Installer Option bank will never reset.
7. Turn ignition off to exit programming.

   See Options Chart on pages 19 - 20.

D. Adjusting the IT-s™ (Interior Theft Sensor)

The IT-s™ is factory pre-set at a moderate sensitivity level and has two adjustment points: Lite-Touch and Full Shock.

▶ Adjusting Lite-Touch Sensitivity:

1. To program the sensitivity of the lite touch trigger, simply enter into the alarm options bank, then advance to the Lite Touch Adjustment. Once in the Lite Touch Adjustment option, use the LOCK button of the transmitter to increase, and the UNLOCK button to decrease the sensitivity.
2. To verify the sensitivity, strike the vehicle (while in programming) with the amount of force you feel is acceptable for a lite touch trigger. If the system chirps, it will recognize that force; otherwise increase or decrease to obtain proper sensitivity.

▶ Adjusting Full-Shock Sensitivity:

1. To program the sensitivity of the full trigger simply enter into the alarm options bank, then advance to Full Shock Adjustment. Once in the Full Shock Adjustment option, use the LOCK button of the transmitter to increase and the UNLOCK button to decrease sensitivity.
2. To verify the sensitivity, strike the vehicle (while in programming) with the amount of force you feel is acceptable for a full trigger. If the system chirps, it will recognize that force; otherwise increase or decrease to obtain proper sensitivity.

Note:

There are 64 levels of adjustment in each option. Once the highest/lowest sensitivity is achieved, the siren/horn will sound an extended pulse to notify that you are at the end of the scale. Decreasing sensitivity one more step from the lowest end of the scale will shut that zone off.

E. Programming the Tach Signal

Note: Skip this step if the vehicle does not have a tach wire or if this unit will be programmed to operate without connection to the tach wire.

1. Open the vehicle hood (hood pin switch must be installed to program tach).
2. Following the steps in Section C (Programming Selectable Options), access Option Bank 9 / Feature 7 (page 20).
3. Start the vehicle with the key, and allow the engine to come to a normal idle (5-10 seconds).
   The unit will chirp the Siren/Horn and flash the parking lights every three (3) seconds to indicate that it has learned the current idle speed.

F. Programming Options

Default settings in **BOLD**

OPTION	DESCRIPTION		
Option Bank 0 - 3 Chirps (Learn Transmitters)			
Option Bank One - 4 Chirps (Alarm Options)		**STATUS INDICATOR**	
1. Lite Touch Adj.	ARM raises sensitivity: DISARM lowers sensitivity		
2. Full Shock Adj	ARM raises sensitivity: DISARM lowers sensitivity		
3. Passive Starter Kill	Engages starter kill after one minute	ON	**OFF**
4. Passive Arming	Alarm automatically arms 60 sec. after ignition is turned off	ON	**OFF**
5. Passive Locks	Automaticly Locks Doors After 60 Sec.	ON	**OFF**
6. Confirmation Chirps	(1) Yes (2) No confirmation chirps	**ON**(1)	OFF(2)
7. Extended Horn Pulse	Extends the horn output time	ON	**OFF**
Option Bank Two - 5 Chirps (Convenience Options)			
1. illuminated Exit	Dome goes active when ignition key is turned off	**ON**	OFF
2. Personalized Transmitters	Refer to pg ?? for reference	ON	**OFF**
3. Real Panic Horn Output	(1) Random pulsed (2) Steady pulsed output	**ON**(1)	OFF(2
4. Trunk Output timing	(1) 20 seconds latched (2) Push and hold	ON(1)	**OFF(2)**
5. Noise Control	Alarm will (1) sound for five 30-sec. cycles, then ignore trigger or (2) Sound continuously when triggered	**ON**(1)	OFF(2)
6. Turbo Timer	Enables Turbo Timer Option	ON	**OFF**
Option Bank Three - 6 Chirps (Keyless Options)			
1. Ford "Slam Lock" Option	Delays door lock time for Ford unlock disable	ON	**OFF**
2. Double Pulse Unlock	Unit Provides 2 pulses when unlocked	ON	**OFF**
3. Ignition Triggered Lock	Doors lock when all doors are closed and ignition is turned on	**ON**	OFF
4. Ignition Triggered Unlock	Doors lock when all doors are closed and ignition is turned off	**ON**	OFF
5. Delayed Door Lock	3 sec. delay locking for theater dimming	ON	**OFF**
6. Extended Locks	Lock duration is (1) 5 sec. or (2) .6 sec.	ON(1)	**OFF**(2)
Option Bank Four - 7 Chirps (Car Start Options)			
1. Tach Mode	(1) Use blind crank (2) Use Tach input	ON	**OFF**
2. Blind Crank	(1) Crank average (2) Adjustable	**ON**	OFF
3. Adjustable Crank Time	Refer to Table 1.2 on pg. 20, LOCK advances to next time		
4. Diesel Mode	15 Sec Delay before Crank	ON	**OFF**
5. Run Time	(1) 25 Minutes (2) 12 Minutes	ON(1)	**OFF** (2)
6. Lock After Start	Relocks the doors after Remote Start	**ON**	OFF
7. 1 Button Start	(1) 1 button Remote Start (2) 2 Button Remote Start	**ON(1)**	OFF(2)
8. Ignore Dome After Start	Door Trigger Ignored for 1 min. After Start	ON	**OFF**

4. System Power-Up and Programming, *cont'd*

Option Bank Five - 8 Chirps (AUX Options)

1. Auxiliary 1 Adjustment	Refer to Table 1.1 ARM Advances to next time
2. Auxiliary 2 Adjustment	Refer to Table 1.1 ARM Advances to next time
3. Auxiliary 3 Adjustment	Refer to Table 1.1 ARM Advances to next time
4. Auxiliary 4 Adjustment	Refer to Table 1.1 ARM Advances to next time

Aux. Adjust Time Table			**TBL 1.1**
# of Chirps	**Duration**	# of Chirps	**Duration**
1	Push & Hold	7	60 Sec
2	500ms	8	5 Min
3	5 Sec	9	10 Min
4	10 Sec	10	20 Min
5	20 Sec	11	60 Min
6	30 Sec	12	Latched

OPTION	**DESCRIPTION**		
Option Bank Six - 9 Chirps (Installer Options)		**STATUS INDICATOR**	
1. Door Trigger Polarity	(1) Positive (2) Negative	ON(1)	**OFF**(2)
2. External Start Trigger	(1) Positive (2) Negative	ON(1)	**OFF**(2)
3. Neutral Safety Input	(1) Positive (2) Negative	ON(1)	**OFF**(2)
4. Retained Accessory Power	(1) RAP (2) Factory Arm	ON(1)	**OFF(2)**
5. External Lite Touch	(1) Lite Touch Input (2) External Start Trigger	ON(1)	**OFF(2)**
6. E Code Entry	Coded Override - Refer to Pg. 21 for instructions	ON	**OFF**
7. Tach Learn	Tach Programming (Hood Open, Start with Ignition key)		

Adjustable Crank Table	**Table 1.2**
# of Chirps	**Duration**
1	0.74 Sec
2	0.87 Sec
3	1.0 Sec
4	1.1 Sec
5	1.2 Sec
6	1.4 Sec
7	1.5 Sec

Fuse Size & Location

Trunk Output	Dome Light	Parking Lights	Door Locks
+ II	+ II	+ I	+ II
15A II	15A II	15A I	20A II
– II	– II	– I	– II
	II	I	II
	20A	20A	5A
	II	I	II
	Heater?	Ignition 1?	Main Power

5. Selectable Coded Override

How to use E-Code

E-Code is a alternate method of emergency overriding and will take the place of the push-button when selected. The factory preset for this option is 1111 and can be programmed with any combination of numbers 1-9 making sure to use all 4 digits.

▶ Programming the 4-digit E-Code:

1. To program a 4-digit code, simply enter into the installer options bank, then advance to the E-Code option (Option Bank 9/Feature6). Once at the E-Code option press LOCK to turn the feature ON (LED ON).
2. To enter your choice for a code, push the override button the number of times that correspond with the first digit of your code finalizing with a push and hold (the hold counts as an entry). The system will confirm acceptance of the code by chirping and flashing the LED the number just programmed into the system. At this time, you can repeat the step for the following 3 digits.

   Example: If you desired code is 2345, push then push and hold for digit 2, wait for system to chirp twice. Next push twice then push and hold for digit 3, wait for system to chirp 3 times etc.
3. Once all 4 digits are entered to your satisfaction, either advance back to the first installer option if necessary or exit programming. If at any time during the code entry process you decide to exit the process, the system will default back to its previously learned code or the factory default.

▶ Entering the 4-digit E-Code for overriding:

1. In the case that a remote control is lost and the system must be overridden, the user will have to enter their previously programmed 4-digit code by using the ignition key and the hidden override button.
2. To enter your first digit, turn the key to the ON position and push the override button the number of times that correspond with the first digit of your code then turn the key off.
3. Turn the key back to the ON position and push the override button the number of times that correspond with the second digit of your code and turn the key off.
4. Repeat this procedure until all 4 digits are entered, system will disarm upon turning ignition off after 4th digit.

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6. System Testing

1. Follow each instruction below.
2. Verify that the CA-640 operates as indicated under each instruction.
3. Check the appropriate wire connections and/or fuses if the unit fails to perform a specific function. Also check that any options pertaining to the function are programmed properly.

Remote Start Operation

Press and hold START for 2 seconds.

1. Unit will chirp 4 times if tach is not yet learned or vehicle has not been manually started if in Blind Crank Timing Mode.
2. Unit will chirp two (2) times if the neutral safety input does not see ground.
3. Unit checks to see if hood is open. If so, parking lights flash two (2) times and vehicle will not start.
4. Unit checks to see if brake is pressed. If so, parking lights flash two (2) times and vehicle will not start.

If the above conditions are not present:

1. Parking lights flash once.
2. Factory alarm (if equipped) is turned off.
3. Factory transponder systems (if equipped) are interfaced (active output is activated).
4. Interior Sensor is disabled.
5. Vehicle ignition turns on.
6. Heater/AC are powered.
7. Vehicle starter begins to crank (heater/AC power shuts off while vehicle starter is cranking).
8. Vehicle successfully starts.
9. Doors lock.
10. Vehicle will shut off if hood is opened, brake is pressed, or if engine reaches 3 times its idle speed (Tach Sense Mode only). Vehicle will also shut off if alarm is triggered.
11. Parking lights stay on for duration of run time.
12. Heater/AC is powered for duration of run time.
13. Vehicle runs for 12 or 25 minutes depending on setting of option.

* A two button start sequence (press LOCK, then press START within 2 seconds) can be set in Programming Option Bank 4/ Feature 7 (page 19).

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Start output configuration:

Tach Sense Mode

If Tach input wire is connected and Tach Sense Mode is enabled, the starter will crank until the tach signal indicates that the vehicle has started, or 4 seconds have passed. After 4 seconds, starter, heater/AC, and ignition will shut off. The unit will pause 5 seconds, then attempt to start the vehicle again. The start sequence will be attempted 5 times before aborting.

Blind Crank Timing Mode

If Blind Crank Timing Mode is enabled, the module will average the last eight key starts to determine crank time. The vehicle must be started at least 4 times with the key to initialize an average. The module will use this average as an assumed crank time.

Adjustable Crank Time

If No Tach Mode is enabled, the starter will crank for 1 of 7 pre-selected times . The unit will "assume" that the vehicle has started.

You must select the time desired for each specific vehicle refer, to pg. 20 (table 1.2) for the time table

Note: In Blind Crank Timing or Adjustable Crank modes, over-rev protection is disabled if selected.

Press and hold START while vehicle is running via remote start

1. Vehicle shuts off.
2. Parking lights turn off.
3. Heater/AC and ignition shut off.
4. Defroster (or other device) turns off.
5. Impact Sensor is enabled.

Press and hold START while vehicle is running via key

1. Parking lights will turn on.
2. System will enter "Quick Stop"mode. Vehicle will remain running for the selected run time after key is removed from ignition.

Security Operation

Press LOCK once

1. Doors lock.
2. Courtesy lights (if on) shut off.
3. Unit checks to see if doors, hood or trunk are open. If open, siren (or horn) sounds once, parking lights flash once, and system enters pre-arm mode.

If the above conditions are not present:

1. Vehicle starter is disabled.
2. Siren (or horn) sounds twice / parking lights flash twice.

6. System Testing, *cont'd*

3. LED (blue light) flashes slowly for duration of arm cycle.
4. After 5 seconds, unit monitors all entrances and sensors.

Press LOCK, then press FIND/PANIC within 2 seconds to DISABLE the IT-s™. Two quick chirps verify this function. Pressing LOCK will re-enable shock.

Pre-arm mode:

1. The unit will wait for the open door, hood or trunk to be closed. The LED is solid during pre-arm.
2. If the entrance is secured, the siren/horn will sound again, parking lights will flash once, and the system will arm.
3. If the entrance is not secured after 4 minutes, the siren/horn will sound again, parking lights will flash once, the system will arm, and the defective trigger or entrance will be ignored.

   Note: If entrance is secured after 4 minutes, the system will immediately begin to monitor the entrance for intrusion.

If door, sensor, hood/trunk or ignition input is triggered:

1. Siren/horn sounds for 30 seconds or until UNLOCK is pressed.
2. Parking lights flash / LED flashes quickly for duration of alarm cycle.
3. If the alarm system is triggered, pressing LOCK OR UNLOCK (once) will end the 30-second cycle while leaving the system armed and locked.

Note: The unit will ignore a trigger input if same input triggers alarm 5 times during one arm cycle. The LED will continue to flash quickly to indicate that the alarm has been triggered.

After alarm has been triggered and the 30-second cycle has elapsed, pressing UNLOCK will sound 4 chirps to indicate an intrusion. Enter vehicle and press the override button once to determine which input triggered the alarm.

Siren/horn chirps a number of times to indicate which input triggered the alarm:

Number of Chirps:

1 - Interior Theft Sensor
2 -Door input
3 - Hood Input
4 - Trunk input/External Sensor
5 - Ignition

If Passive Arm option is set to On:

System will arm 60 seconds after key is turned off.

Press UNLOCK

1. Doors unlock
2. Factory alarm (if equipped) is turned off.
3. Siren sounds once/ parking lights flash once.

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4. Courtesy lights turn on for 60 seconds, or until LOCK is pressed or ignition is turned on.
5. Vehicle starter is enabled.
6. LED Flashes if alarm was triggered.

Press UNLOCK twice

1. Siren (or horn) sounds once.
2. Passenger doors unlock if using 2-stage unlock.

Press FIND

Siren/horn sounds 5 times.

Press and hold PANIC for 1 second

Siren/horn sounds and lights flash for 30 seconds or until any remote control button is pressed.

Press START while vehicle is running via Remote Start

Defroster (or other device) turns on for 10 minutes or for preset vehicle defrost time. (If the output is connected to another device, the device will activate.) Output will also activate on a single press.

Press and hold LOCK

Headlights (or other device) turn on for 20 seconds or until LOCK is pressed again. (If the output is connected to another device, the device will activate).

Press and hold UNLOCK for 2 seconds

Trunk or hatch opens, or other device activates AS LONG AS BUTTON IS HELD.

If Ignition Lock option is set to On:

Doors lock when all doors are closed and key is turned to ON position.

If Ignition Unlock option is set to On:

Doors unlock when ignition is turned off.

If Illuminated Exit option is set to On:

Dome will turn on once ignition is shut off

VALET MODE

Press LOCK with vehicle ignition On

System enters Valet mode, LED double-blinks.

Press UNLOCK with vehicle ignition On

System exits Valet mode, LED turns off.

7. Personalized Transmittter's

A. What is Personalized Transmiiters function

This system has the capability to active an auxilary when the unit recieves an unlock command from the tranmitter. This function would be used to activate memory seats or any other device that you wanted activatedwhen unlocked . Option bank 2/Feature 2 (Pg.19) turn festure to the on position (LED ON)

Once the option is selected you MUST re-program the transmitters

B. How does it work?

- With option selected the last 2 transmitters that are learned into the sytem will act as transmitter for Driver 1 and Driver 2.

- i.e program 3 tranmsitters into system.The 2nd from last transmitter will activate aux4. The last transmitter learned will activate aux 3

C. Remote Transmitter Programming - Personalized Transmitters

1. Open the driver's door.
   1.a. The 20/B wire must initially see a ground to access programming.
2. Turn vehicle ignition on.
3. Press and hold emergency override button.
   After 10 seconds, the siren or horn will sound three (3) times. This indicates that the unit has entered the transmitter programming mode.
4. Program as many transmitters (up to 8) as desired . The last 2 transmitters that are learned will activate the auxialries when unlocked.

8. Turbo Timer Option

IMPORTANT!

In order for this function to work properly the Neutral safty must be installed correctly

- Turbo Timer is a selectable option that will allow vehicle to remain running after the consumer has exited for 5 Minutes.
- To achieve this feature you must have the option selected and a tach programmed (unless tachless is selected)

How to activate Turbo Timer

1. The option must be selected & Car Start harness must be installed

2.The module must see neutral safty change state from Drive to park.

3.Push and hold brake for 5 seconds

4.Turbo Timer will activate and run for 5 minutes

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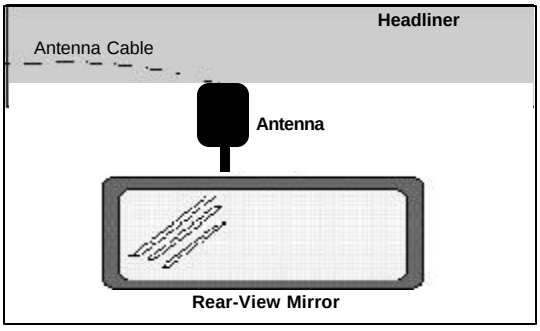
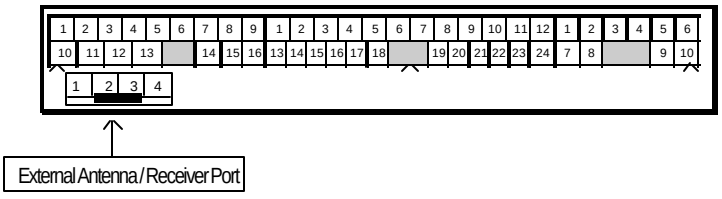
10. Mounting the Module / Finishing the Installation

IMPORTANT!
Perform System Test (page 22-25) before and after this section.

1. Use the supplied long tie wraps to mount the module to a brace or wire harness under the dash. The module and harnesses must be clear of moving parts.
2. Completely uncoil the antenna and route up the nearest front window pillar to the headliner. Be careful not to pinch the antenna under vehicle panels, or route near moving parts.
3. Route the antenna across the headliner to a position behind the rearview mirror.
4. Attach the antenna to the inside of the windshield behind the rearview mirror:
   - The glass surface must be clean before mounting antenna. Use rubbing alcohol to thoroughly clean the mounting location.
   - Remove protective backing and press firmly against windshield.
   - Antenna should be mounted as shown below.
5. Plug antenna into the Antenna Plug located in the back of module as shown below.



View of Front of Module



CODE ALARM
Technology that talks to cars and trucks.